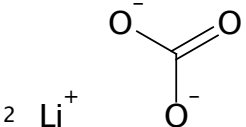


CrossFire Beilstein Substance

3999191

[Select all citations](#) / [Deselect all citations](#)

	Available Data
	<div>External Identifiers (1)</div> <div>Solubility (MCS) (5)</div> <div>Substance Identification (1)</div>

Substance Identification

Substance Identification record 1 of 1	
Beilstein Registry Number	3999191
Beilstein Preferred RN	554-13-2
CAS Registry Number	554-13-2, 5006-97-3, 10377-37-4, 25890-20-4, 71552-93-7, 79672-07-4, 130674-17-8
Chemical Name	<ul style="list-style-type: none"> lithium carbonate Lithiumcarbonate carbonic acid, lithium salt Lithium carbonate Li2CO3
Autoname	Lithium; carbonate
Linear Structure Formula	2Li(1+)*CO3(2-)
Fragment Molecular Formula	<div>Fragment BRN</div> <div>3600898</div>
	<div>Fragment BRN</div> <div>3587165</div>
Molecular Formula	CO3*2Li
Molecular Weight	73.8912
Type of Substance	<ul style="list-style-type: none"> acyclic
Beilstein Reference	6-03, 5-03
Entry Date	1991/12/02
Update Date	2009/10/24

External Identifiers

External Identifiers record 1 of 1	
CAS Registry Number	554-13-2, 5006-97-3, 10377-37-4, 25890-20-4, 71552-93-7, 79672-07-4, 130674-17-8
INCHI Code	HQRPHMAXFVUBJX-JFIKJWTHCS

Solubility (MCS)

Solubility (MCS) record 1 of 5	
Citation Pointer	• 5576810
Solubility (MCS) Citations	Journal; Cella, James A.; Bacon, Sidney W.; JOCEAH; Journal of Organic Chemistry; English; 49; 1984; 1122 – 1125; DOI: 10.1021/jo00180a033; ISSN: 0022-3263;
Solubility	0.3 g* –1
Saturation	in pure solvent
Temperature	25 C
Solvent	• dimethylformamide
Entry Date	2007/11/06

Solubility (MCS) record 2 of 5	
Citation Pointer	• 5576810
Solubility (MCS) Citations	Journal; Cella, James A.; Bacon, Sidney W.; JOCEAH; Journal of Organic Chemistry; English; 49; 1984; 1122 – 1125; DOI: 10.1021/jo00180a033; ISSN: 0022-3263;
Solubility	0.4 g* –1
Saturation	in pure solvent
Temperature	25 C
Solvent	• N,N-dimethyl-acetamide
Entry Date	2007/11/06

Solubility (MCS) record 3 of 5	
Citation Pointer	• 5576810
Solubility (MCS) Citations	Journal; Cella, James A.; Bacon, Sidney W.; JOCEAH; Journal of Organic Chemistry; English; 49; 1984; 1122 – 1125; DOI: 10.1021/jo00180a033; ISSN: 0022-3263;
Solubility	1.4 g* –1
Saturation	in pure solvent
Temperature	25 C
Solvent	• dimethylsulfoxide
Entry Date	2007/11/06

Solubility (MCS) record 4 of 5	
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Citation Pointer	• 5576810
Solubility (MCS) Citations	Journal; Cella, James A.; Bacon, Sidney W.; JOCEAH; Journal of Organic Chemistry; English; 49; 1984; 1122 – 1125; DOI: 10.1021/jo00180a033; ISSN: 0022-3263;
Solubility	1.4 g* ^l -1
Saturation	in pure solvent
Temperature	25 C
Solvent	• various solvent(s)
Entry Date	2007/11/06

Solubility (MCS) record 5 of 5	
Citation Pointer	• 5576810
Solubility (MCS) Citations	Journal; Cella, James A.; Bacon, Sidney W.; JOCEAH; Journal of Organic Chemistry; English; 49; 1984; 1122 – 1125; DOI: 10.1021/jo00180a033; ISSN: 0022-3263;
Solubility	2.1 g* ^l -1
Saturation	in pure solvent
Temperature	25 C
Solvent	• tetrahydrothiophene 1,1-dioxide
Entry Date	2007/11/06

LithiumCarbonate_Scifinder

Task History

Explore substances by ID: 554-13-2 initiated

November 19, 2009 8:55 PM

Explore complete

Explore results

Answer set 1 created with 1 answer from REGISTRY

Detailed display from Answer set 1 of 554-13-2

CAS Registry Number: 554-13-2

(Component: 463-79-6)

C H₂ O₃ . 2 Li

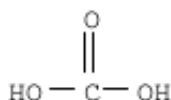
Carbonic acid, lithium salt (1:2)

Carbonic acid, dilithium salt (8CI,9CI); Lithium carbonate (6CI, 7CI); CP 15467-61; Camcolit; Candamide; Carbolith; Carbolithium; Carbonic acid lithium salt (Li₂CO₃); Ceglution; Dilithium carbonate; Eskalith; Hypnorex; Limas; Liskonum; Lithane; Lithicarb; Lithium carbonate (Li₂CO₃); Lithobid; Lithocarb; Lithonate; Lithotabs; Micalith; NSC 16895; Phasal; Plenur; Priadel; Quilonorm-retard; Quilonum retard; Teralithe

Component

Alternate CAS Registry Numbers: 10377-37-4

Deleted CAS Registry Numbers: 12767-19-0; 216964-61-3



~11,726 References

Document Types: Book, Conference, Dissertation, Journal, Patent, Preprint, Report

CAplus Role	Patents	Nonpatents	Nonspecific Derivatives from Patents	Nonspecific Derivatives from Nonpatents
Analytical study	✓	✓		✓
Biological study	✓	✓	✓	
Formation, nonpreparative	✓	✓		✓

Miscellaneous	✓	✓		
Occurrence	✓	✓		✓
Preparation	✓	✓	✓	✓
Process	✓	✓	✓	✓
Properties	✓	✓	✓	✓
Reactant or reagent	✓	✓	✓	✓
Uses	✓	✓	✓	✓

Experimental Properties: **Biological** **Chemical** **Density** **Electrical** **Electronic** **Magnetic** **Optical** and **Scattering Spectra** **Structure-related** **Thermal**



Biological Properties	Value	Conditions	Notes
ADME (Absorption, Distribution, Metabolism, Excretion)	See full text		(1) CAS
Half-Life (Biological)	See full text		(1) CAS
Median Lethal Dose(LD50)	710 mg/kg	Organism: rat Route: oral	(5) APC
Median Lethal Dose(LD50)	375 mg/kg	Organism: mouse Route: intraperitoneal	(20) CAS
Chemical Properties	Value	Conditions	Notes
Phase Diagram	See full text		(26) CAS
Solubility	See full text	1 of 6	(30) CAS
Density Properties	Value	Conditions	Notes
Density	2.11 g/cm3		(5) APC
Density	2.11 g/cm3		(6) NLM
Density	2.1 g/cm3		(7) NIOSH
Density	1.819 g/cm3	Temp: 766 °C	(8) CAS
Density	1.815 g/cm3	Temp: 766 °C	(8) CAS
Density	1.814 g/cm3	Temp: 766 °C	(8) CAS
Density	1.798 g/cm3	Temp: 815 °C	(8) CAS
Density	1.797 g/cm3	Temp: 815 °C	(8) CAS
Density	1.796 g/cm3	Temp: 815 °C	(8) CAS
Density	1.795 g/cm3	Temp: 815 °C	(8) CAS
Density	1.782 g/cm3	Temp: 867 °C	(8) CAS
Density	See full text		(9) CAS
Electrical Properties	Value	Conditions	Notes
Dielectric Constant	See full text	1 of 3	(10) CAS
Dielectric Loss	See full text		(10) CAS
Electric Conductance and Electric Resistance	See full text	1 of 2	(11) CAS
Piezoelectric Coefficient	See full text	1 of 2	(28) CAS
Electronic Properties	Value	Conditions	Notes
Band Gap	See full text	1 of 2	(2) CAS
Magnetic Properties	Value	Conditions	Notes

Magnetization	See full text		(19) CAS
Optical and Scattering Properties	Value	Conditions	Notes
Refractive Index	1.572		(6) NLM
Refractive Index	1.567		(6) NLM
Refractive Index	1.428		(6) NLM
Refractive Index	See full text		(17) CAS
Spectra Properties	Value	Conditions	Notes
Electron Spectrum	See full text	1 of 3	(12) CAS
IR Absorption Spectrum	See spectrum		(15) AIST
IR Absorption Spectrum	See spectrum		(15) AIST
IR Absorption Spectrum	See spectrum		(16) BIORAD
IR Absorption Spectrum	See spectrum		(16) BIORAD
IR Absorption Spectrum	See spectrum		(16) BIORAD
IR Absorption Spectrum	See full text	1 of 4	(17) CAS
IR Spectrum	See full text		(18) CAS
Metal NMR Spectrum	See full text		(25) CAS
Photoelectron Spectrum	See full text	1 of 4	(27) CAS
Raman Spectrum	See full text		(29) CAS
UV and Visible Absorption Spectrum	See full text	1 of 4	(17) CAS
UV and Visible Emission/Luminescence Spectrum	See full text	1 of 4	(34) CAS
X-Ray Absorption Spectrum	See full text		(35) CAS
X-Ray Spectrum	See full text	1 of 4	(37) CAS
Structure-related Properties	Value	Conditions	Notes
Bond Length	See full text		(3) CAS
Crystal Structure	See full text		(4) CAS
Particle Size	See full text	1 of 2	(9) CAS
Specific Surface Area	See full text		(31) CAS
X-Ray Diffraction Pattern	See full text	1 of 15	(36) CAS
Thermal Properties	Value	Conditions	Notes
Enthalpy	See full text	1 of 2	(13) CAS
Entropy	See full text		(13) CAS
Fusion Enthalpy	See full text		(14) CAS
Heat Capacity	See full text		(13) CAS
Melting Point	735 °C		(21) CAS
Melting Point	728 °C		(22) CAS
Melting Point	723 °C		(7) NIOSH
Melting Point	723 °C		(6) NLM

Melting Point	720 °C		(5) APC
Melting Point	720 °C		(23) SRC
Melting Point	640 °C		(24) CAS
Melting Point	See full text		(14) CAS
Thermal Analysis	See full text	1 of 3	(32) CAS
Thermal Conductivity	See full text		(33) CAS

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Physical Constants of Inorganic Compounds

	Name	Synonym	Formula	CAS Reg. No.	Structure	Mol. Wt.	Phys. Form	mp/ °C	bp/ °C	ρ/g cm ⁻³	Sol. in g/100 g H ₂ O	Solubility
1	Lithium carbonate		Li ₂ CO ₃	554- 13-2		73.891	wh monocl cry	732	1300 dec	2.11	1.30 ²⁵	s acid; i EtOH
2	Lithium hydrogen carbonate	Lithium bicarbonate	LiHCO ₃	5006- 97-3		67.958	wh pow					sl H ₂ O

CRC Handbook of Chemistry and Physics

Handbook of Inorganic Chemicals

LITHIUM CARBONATE

[554-13-2]

Formula: Li_2CO_3 ; MW 73.89

Uses

Lithium carbonate is used in enamels, specialty glasses and special ceramic wares. It is used to produce glazes on ceramics and porcelains. It also is used as an additive to molten aluminum fluoride electrolyte in Hall-Heroult process. It is the starting material to prepare many other lithium salts. The compound also is used in medicine as an antidepressant.

Physical Properties

White monoclinic crystals; refractive index 1.428; density 2.11 g/cm³; melts at 723°C; decomposes at 1,310°C; low solubility in water (1.54 g/100g) at 0°C; 1.32 g/100g at 20°C), solubility decrease with temperature (0.72g/100g at 100°C); insoluble in acetone and ethanol.

Thermochemical Properties

ΔH_f°	-290.60 kcal/mol
ΔG_f°	-270.58 kcal/mol
S°	21.60 cal/degree mol
C_p	23.69 cal/degree mol

Title: Perry's Chemical Engineers' Handbook (8th Edition)

Table: Table 2-1 Physical Properties of the Elements and Inorganic Compounds

no.	name	formula	formula weight	color, crystalline form	refractive index	specific gravity	melting point (°C)	boiling point (°C)
466	Lithium carbonate	Li ₂ CO ₃	73.89	colorless or white, monoclinic	1.567	2.11 ^{0°}	618	d.

Title: Perry's Chemical Engineers' Handbook (8th Edition)

Table: Table 2-1 Physical Properties of the Elements and Inorganic Compounds

no.	solubility in 100 parts Cold water (wt%)	solubility in 100 parts Hot water (wt%)	solubility in 100 parts Other reagents (wt%)
466	1.54 ^{0°}	0.72 ^{100°}	s. dil. a.; i. al., act., NH ₃

Title: International Critical Tables of Numerical Data, Physics, Chemistry and Technology (1st Electronic Edition)

Table: Chemical Compounds (Inorganic); B-Table

no.	index no.	material or substance name	mol. formula	CAS Registry No.	mol. weight	crystal system	melting point (°C)	sp. gravity
2669	2634	lithium carbonate	CLi ₂ O ₃	554-13-2	73.8780	monoclinic	618	2.111 [17.5°C]

Title: International Critical Tables of Numerical Data, Physics, Chemistry and Technology (1st Electronic Edition)

Table: Chemical Compounds (Inorganic); B-Table

no.	refractive index	source page no.
2669	1.428 (α); 1.567 (β); 1.572 (γ)	vol. 1, p. 149